

Date: Tuesday, 10/30/2007 2:48:16 PM
 User: Kim Johnston

Process Sheet

48

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: AFT X-TUBE EXT HEIGHT GEAR
Job Number	: 35427		
Estimate Number	: 10421		
P.O. Number	: N/A	Part Number	: D205596103
This Issue	: 10/30/2007 S.O. No. : N/A	Drawing Number	: D205-596-103 REV A
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A	Drawing Revision	: A
Previous Run	: 33983	Material	: N/A
	Type : LANDING GEAR	Due Date	: 11/25/2007
Written By	: <u>HA 07.10.30</u>	Qty:	1 Um: Each
Checked & Approved By	: <u>HA 07.10.30</u>		
Comment	: Est Rev: 6 05.06.10 Acid etch moved to Step 11 KJ/JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0.	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy D205-594 bluefile & type labels per PPP D205-596-103CHG001

2519376

07-11-27 KJ

2.0	D2890	Aft Crosstube
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D2890 Aft Crosstube 35421

EL 7-10-30

3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Mark 37.30" for cutting from tangential line in the straight section from D2890 as per Dwg wall template.

EL 7-10-30

4.0	QC15	DIMENSIONAL CHECK OF X-TUBES
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Comment: DIMENSIONAL CHECK OF X-TUBES

7-10-30

5.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1-Cut as per Dwg D205-596-103

EL / SR 7-10-31

2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.

-144M
07-11-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 10/30/2007 2:48:16 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT X-TUBE EXT HEIGHT GEAR

Job Number: 35427

Part Number: D205596103

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

5/12/07

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



AWM 07-11-20



Comment: HAND FINISHING RESOURCE #1

TOUCH UP Chemical Conversion Coat as per QSI 005 4.1

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5/12/11

9.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside with Immron per QSI 005 4.2

11/07/12 18

10.0

QC14

INSPECT SPRAY PAINT



12-19



Comment: Inspect Spray Paint

11.0

D2856600

Abrasion Strip



Comment: Qty.: 1.7640 f(s)/Unit

Total : 1.7640 f(s)

Pick:

Qty Part number

Description

Batch

2 D2856-600(10.090")

Abrasion Strip

*Rubber cushion D 3595-063-530
B 33834-2/35125-2
27 07-12-20*

12.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number

Description

Batch

2 D2940-1

Support

32780

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes (No) DQA: LD Date: 08/01/03
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 10/30/2007 2:48:17 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT X-TUBE EXT HEIGHT GEAR

Job Number: 35427

Part Number: D205596103

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number

Description

Batch

4 MS21920-28

Clamp

104423

25 07-12-20

14.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Install abrasion strips per QSI 035 position using DT858Z. Install supports and clamps per Dwg D205-596-103. Torque clamps to 80-100 in lb.

per DSI 9396 see 2 attached
per EEN 1075

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5/2/12/21 (22)

16.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-596-103

Location: 4

8/10/12 SC (7)

17.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

(1)
12/08/01/03

Job Completion



mi 2008/1/13
W

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

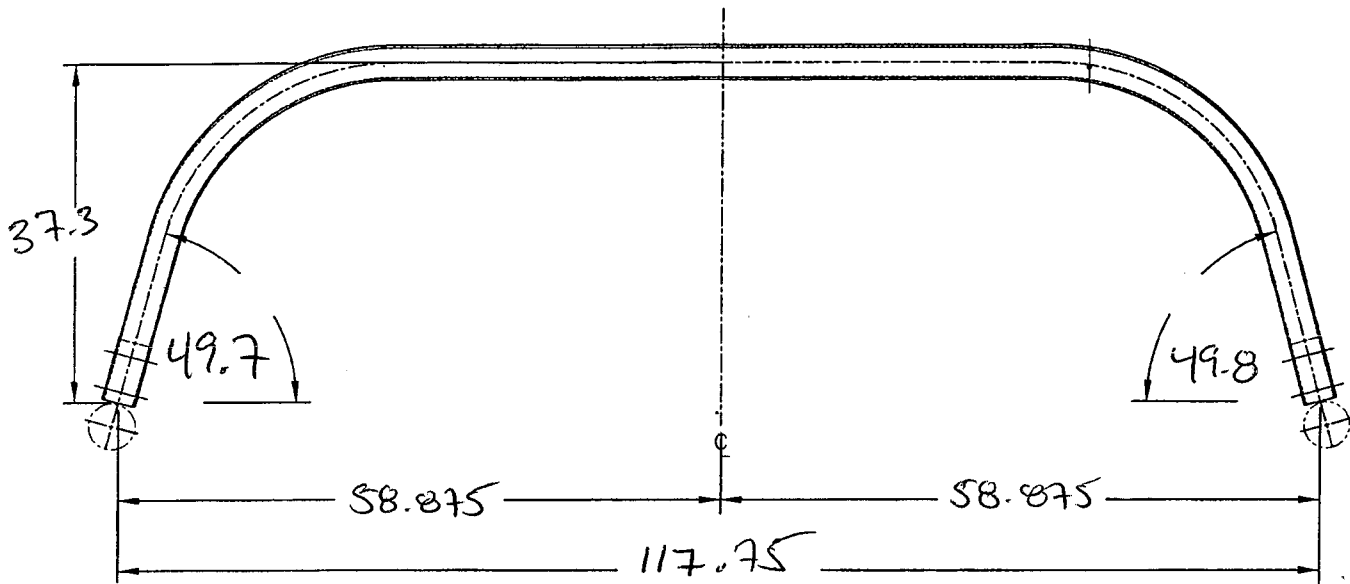
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

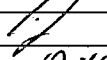
NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	35427
Description: Crosstube High-High Aft		Part Number:	D205-596-103
Inspection Dwg: D205-596-103 Rev: A		Page 1 of 1	


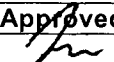
Required Dimension	Min	Max
Height	37.2	37.4
1/2 Span	58.7	58.9
Angle	49	52
Total Span	117.4	117.8



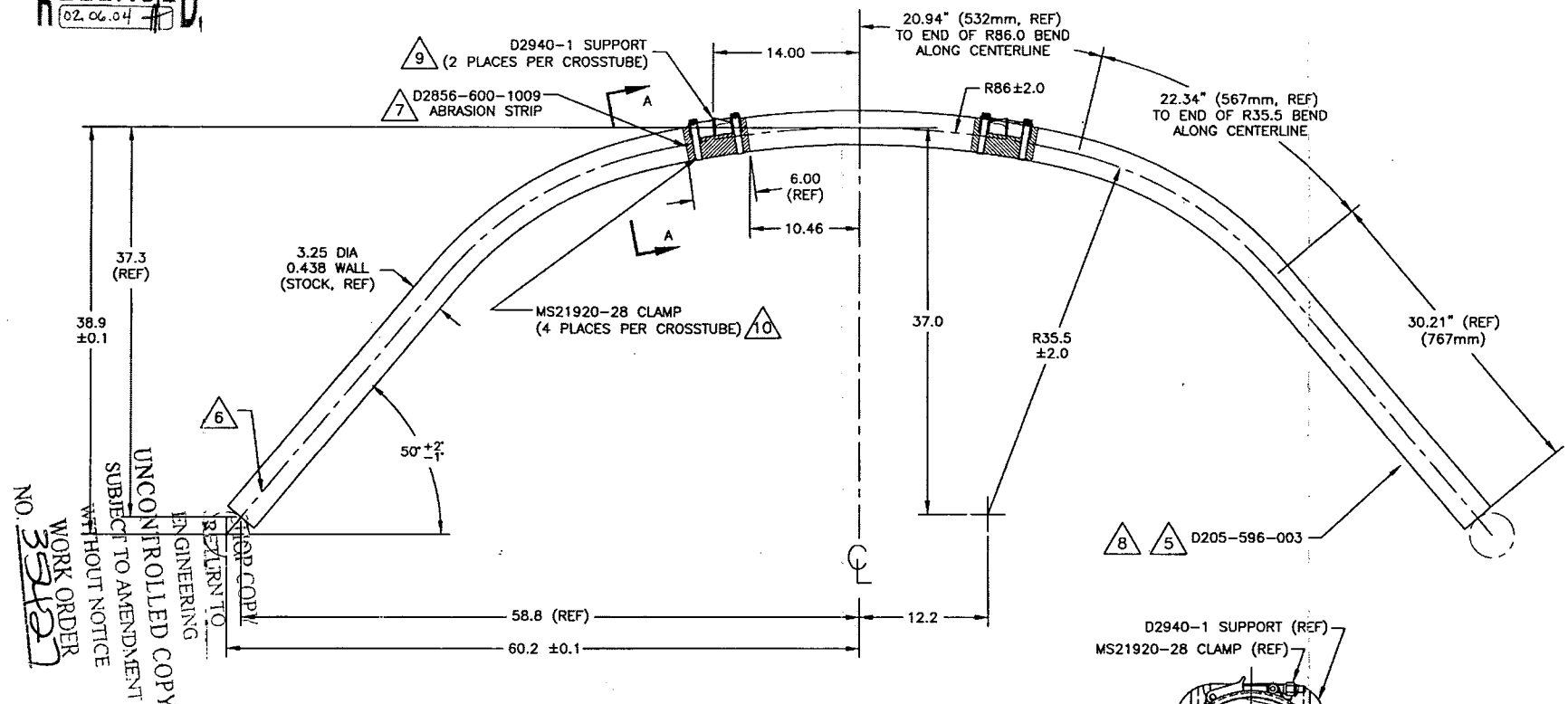
Comments

QC15 Inspection	
Date	

17-10-30

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM 	

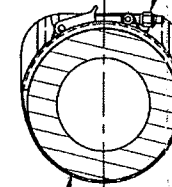
RELEASED
02.06.04



GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURE FROM D6008-180
FINISHED LENGTH = 146.98
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 6) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS
- 7) INSTALL D2856-600-1009 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2940-1 SUPPORT, PER QSI 035
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) SEAL EDGES OF SUPPORTS USING SIKAFLEX-241/-291 SEALANT (OPTIONAL)
- 10) TORQUE CLAMPS 80 TO 100 IN-LB

SECTION A-A
SCALE 2:5



D2856-600-1009 ABRASION STRIP (REF) 7

A		02.05.27	NEW ISSUE	
DESIGN	CP	DRAWN BY	CP	DART DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA
CHECKED	A	APPROVED	A	DRAWING NO. D205-596-103
DATE	02.05.27	TITLE	XTUBE ASS'Y (HI-HI AFT)	
COPYRIGHT © 2002 BY DART AEROSPACE LTD.		REV. A SHEET 1 OF 1		
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		SCALE 1:10		

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D205-594 Rev. C (AND EARLIER) AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D205-594 Rev. 2 (AND EARLIER)
REF. CANADIAN STC: SH03-6
REF. FAA STC: SR01742NY

For D205-596-101/-103 Crosstubes (ref. 39" Landing Gear) or D205-596-105/-107 Crosstubes (ref. 31" Landing Gear) at CHG 002 or later, the D2856-600-851/-1009 Abrasion Strips have been removed, the D2893-1 and D2940-1 Supports have been bonded onto the crosstubes using Magnobond 6398 and D3595-063-450/-530 Rubber Cushions have been installed underneath the MS21920-26/-30 Clamps. Amend Parts List of IIN-D205-594 Section 5 and ICA-D205-594 Section 32.8 as follows:

Remove:

QTY -101	QTY -103	QTY -105	QTY -107	Part Number	Description
2		2		D2856-600-851	ABRASION STRIP
4		4		MS21920-24	CLAMP
	2		2	D2856-600-1009	ABRASION STRIP
	4		4	MS21920-28	CLAMP

Add:

QTY -101	QTY -103	QTY -105	QTY -107	Part Number	Description
4		4		D3595-063-450	RUBBER CUSHION
4		4		MS21920-26	CLAMP
	4		4	D3595-063-530	RUBBER CUSHION
	4		4	MS21920-30	CLAMP

To prevent the supports from shifting on D205-596-101/-103/-105/-107 Crosstubes at CHG 001, the D2893-1 or D2940-1 Supports should be removed and re-installed as follows:

- Follow section 32.1 of ICA-D205-594 for the removal of the crosstubes from the helicopter.
- Remove the MS21920-24/-28 Clamps that fasten the D2893-1 and D2940-1 Supports from the crosstubes per Section 32.3 of ICA-D205-594.
- Remove the D2856-600-851/-1009 Abrasion Strips from the crosstube per section 32.5 of ICA-D205-594.
- Inspect the crosstube surface underneath the supports for corrosion and mechanical damage per items 5.3.1 and 5.3.2 of the 300 hour inspection. Repair damage within acceptable limits and touch up finish per item 5.3.3 of the 300 hour inspection.
- Inspect the supports for corrosion and mechanical damage per items 5.3.4 of the 300 hour inspection. Repair damage within acceptable limits and touch up finish per item 5.3.4 of the 300 hour inspection.
- Abrade area to which support will be applied with 400 grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe area until there is no residue.
- Apply a 0.03" to 0.06" thick layer of Magnobond 6398 underneath D2893-1 or D2940-1 Supports and re-install the Supports on the crosstube as shown in Figure 1. Install a D3595-063-450/-530 Rubber Cushion on each MS21920-26/-30 Clamp. Position and secure the D2893-1 or D2940-1 Supports on the crosstube using MS21920-26/-30 Clamps. Torque clamps to 80-100 in-lb. Let the D205-596-101/-103/-105/-107 Crosstube Assembly cure before re-installing the crosstube on the aircraft.
- Re-install the D205-596-101/-103/-105/-107 crosstube per section 32.2 of ICA-D205-594.

CANADA DEPARTMENT OF TRANSPORT AIRCRAFT CERTIFICATION BRANCH DAO # 01-O-01.	
APPROVED	
BY:	
D. SHEPHERD (DE # 02)	
DATE:	07.11.16
CERT. NO.:	SH03-6
ISSUE NO.:	3

A	NEW ISSUE	MB	07.11.16
REV.	DESCRIPTION	BY	DATE
DESIGN.		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		DSI 9396	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE SUPPORT CHANGE	NTS
DATE	07.11.16	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

For customers who would like to upgrade their D205-596-101/-103/-105/-107 Crosstubes from CHG 001 to CHG 002, the following kits can be obtained from Dart:

DSI 9396-XXX PARTS LIST

QTY -011	QTY -013	Part Number	Description
X		DSI 9396-011	FWD CROSSTUBE SUPPORT CHANGE (D205-596-101/-105 FWD CROSSTUBE)
	X	DSI 9396-013	AFT CROSSTUBE SUPPORT CHANGE (D205-596-103/-107 AFT CROSSTUBE)
4		D3595-063-450	RUBBER CUSHION
4		MS21920-26	CLAMP
	4	D3595-063-530	RUBBER CUSHION
	4	MS21920-30	CLAMP

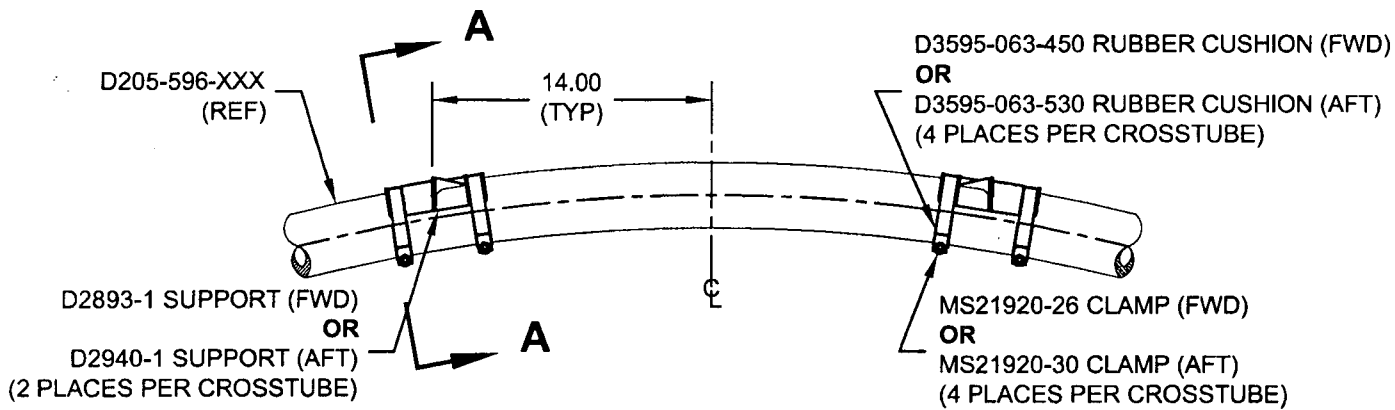
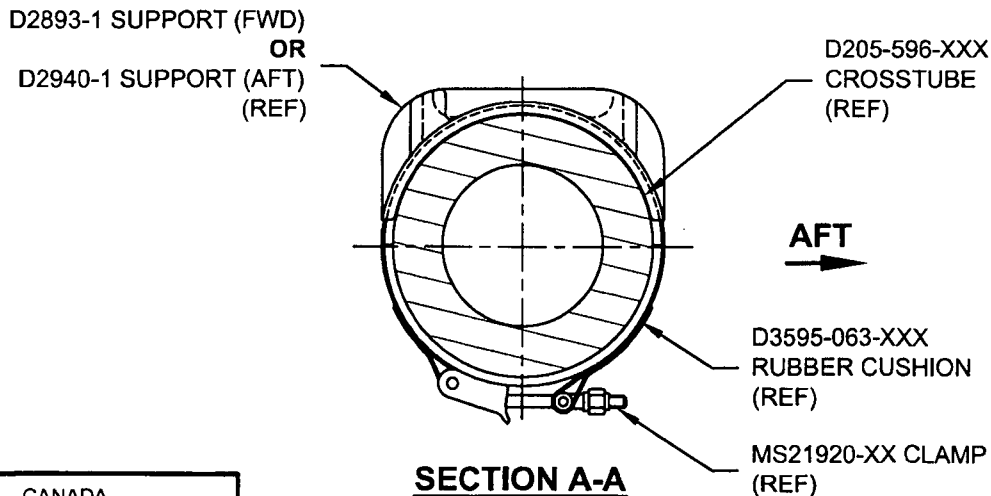


FIGURE 1: INSTALLATION OF SUPPORT ON CROSSTUBE



CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 07.11.16
CERT. NO.: SH03-6
ISSUE NO.: 3

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	DSI 9396	SHEET 2 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE SUPPORT CHANGE	NTS
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Customer : CC-DAR01 Dart Aerospace Ltd.
Job Number : 36810
Estimate Number : 10804
P.O. Number :
This Issue : 17/01/2008 S.O. No. :
Prsht Rev. : NC
First Issue : / / Type : LANDING GEAR
Previous Run : 00015

Drawing Name : D205-596

Part Number : Z_CUSTOM
Drawing Number : ECN 1108
Project Number :
Drawing Revision :
Material :
Due Date : 24/01/2008

Qty: 1 Um: Each

Written By :
Checked & Approved By :
Comment :

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

REMOVE FROM STOCK

D205-596-101

32941-34946-34947

D205-596-103

35427-35429-36067-36068

D205-596-105

D205-596-107

35224-

ADD NEW PAPERWORK TO KITS
DSI 9396 REV.B, PER ECN 1108

RETURN TO STK

8/1/15 SQ (8x)

2.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

15080121

Job Completion



2008/1/21

U